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INFORMATION REPORT

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SUBJECT Developmental Work at Gema, Berlin

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25X1A

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SUPPLEMENT TO REPORT NO. 25X1

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THIS IS UNEVALUATED INFORMATION

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1. The following instruments were developed by Gema:

   a. Miniature transmitter in book-like form
   b. Television receivers of well-known types
   c. Television receivers extra small
   d. Potentiometers for transmitters
   e. Wireless transmission of power current
   f. Two-ray oscillographs and impulse instruments.

2. ersonnel

   a. Three Russians in plain clothes who were seldom seen.

   b. About 450 people comprised the developmental staff comprising professors, holders of doctor titles, engineers, high frequency engineers, etc.

   c. About 450 people; mechanics, switching mechanics, etc.

   d. Of the total personnel 90 percent is male, 10 percent female.

   e. Gema was a purely Soviet enterprise, not a Soviet Corporation (Aktiengesellschaft). Salaries and wages were very generous.

3. Details on Production

   a. Miniature Transmitters in book-like form

   Intended use: low-power secret transmitter. The apparatus was the size of an average book. In the front were a few pages on which detailed instruction for use were printed. Under these pages was a sheet iron plate, which could be opened by a small sliding bolt. Below this was the front plate with two horizontally sliding tuning arrangements, sockets for Morse key and head phone.

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26 25X1

The set contained six miniature tubes; source for current: Four standard flashlight batteries. Morse key and head phone could not be placed in the book. The antennas consisting of two rods to be telescoped to the length of the book were installed in the book. The book was fitted with a hinge lock as on private diaries.

An experimental series of 20 sets was issued.

b. Potentiometer for transmitters

Size of apparatus: 40x12x12 inches with two carrying handles. The main component was an ultra-capacitance 50 ohm resistance, which was permanently cooled by a small fan. The tube used consisted of only one small diode for rectifying the high frequency. As the instruments were not available the apparatus could not be completed. Only a design was developed and built.

c. Two-ray oscillograph

The instrument operated on a two-ray tube and, despite its size of about 40x20x12 inches, was only a component of a larger apparatus which also included an impulse device.

It is not certain whether the parabolic aerials on top of the roof, formerly used with the Wuerzburg and Lichtenstein sets by the German Armed Forces and still in operation, belong to this contrivance.

d. Television

Work was proceeding on two entirely separate systems. For this the following two transmitters were operating:

(1) One television transmitter was mounted on the highest iron trellis mast in KOENIGS.WUSTERHAUSEN.

(2) Another transmitter was on the roof of the five-story building of Gema. A platinum-plated aerial was tested on this transmitter which, for safety's sake, was removed at night. An aerial of noncorroding steel was permanently fixed.

The TV transmitter in KOENIGS.WUSTERHAUSEN actuated the TV receivers in the usual manner with large picture tubes. About five receivers were in operation.

An entirely different method has been adopted for the transmitter installed on the roof and the round-about receivers now under continuous test.

The TV tube was the size of a standard radio tube AM2. Through a mirror and a lens the picture was projected to the wall and clear pictures up to 60x80 inches were obtained. The focussing of the pictures was regulated by increasing or shortening the distance from the wall. This instrument seemed to be particularly interesting as it had only six tubes, viz. one picture tube, two rectifiers, three amplifying tubes.

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The maximum constant plate tension for the picture tube was 1,700 Volts. The external dimensions of the complete instrument for picture and sound were about 10x10x10 inches. After removal of mirror and lens, the small picture tube, vertically arranged, was visible. The picture appeared on this tube, about 1.2 inches in size.

c. Wireless transmission of power current

Experiments were made for wireless transmission of current for driving motors. These were done on small models. In the experimental room of the plant small automobiles (size of children's toys) were moving about, getting their driving power by wireless transmission. Further details are not available.

4. The mentioned devices represent only a small part of the apparatus developed and built in the plant. A lot of other apparatus about which no details could be obtained were also produced.

25X1A [redacted] Comment:

The miniature transmitters in book-life form described under para 3a can have only a small range and can only be used near the front. The potentiometer mentioned under para 3d is one of the usual measuring instruments to be found with any major transmitting plant.

The television set mentioned under para 3d is presumably a new development, unknown until now, and the small number of tubes (one picture tube, two rectifiers, and three other amplifying tubes) is a most striking feature.

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